

Tim Van Berkom's Asphalt Patching Grader Attachment



Tim Van Berkom stands by his Asphalt Patching Grader Attachment.

By Dave Sorensen, WST2 Traffic Technology Engineer

The Asphalt Patching Grader Attachment, designed by Tim Van Berkom from the WSDOT Shelton Maintenance Office, is used for patching trenches, potholes, and ruts. Two "boots" or blades are attached to a road grader's moldboard blade. The boots are width adjustable for patching and can also be rotated out of the way for full blade width asphalt patching. Tim had help from co-workers Aaron Corliss and Eric Hembury in building this apparatus. The first version was constructed in 1995. Since then the grader blade attachment has changed little in design. The last modifications were done in 1996.

The design of the unit is pretty straightforward. Brackets are bolted on the far left and right

backside of the grader blade. These brackets protrude slightly forward of the blade with round shoes welded to the brackets. Each end of a pipe rests in these shoes. The pipe runs horizontally at full blade width on the top front of the grader blade. The attachment blades have a collar on each one that allows them to slide over the pipe.

Picture a towel rack mounted to a wall in your bathroom with a couple of coat hangers on it that slide left and right on the towel bar, only the bar is about 12 feet wide! That's how the attachment blades are adjusted for width, by sliding them back and forth on the pipe. By using this design, the attachment blades can also be swung up and out of the way of the grader blade if full width patching is desired.

Total cost to build this invention was about \$500 with most of the material obtained from the scrap

pile. The only item purchased was the pipe that the attachment blades slide back and forth on to adjust for patching width.

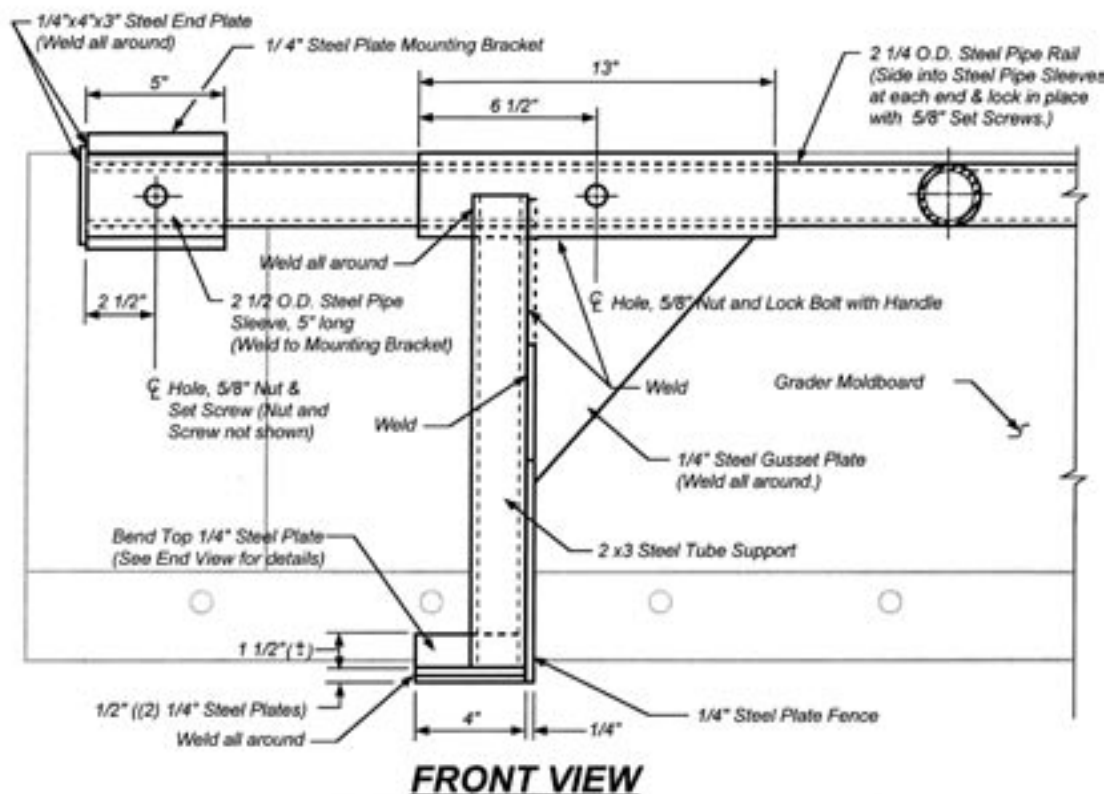
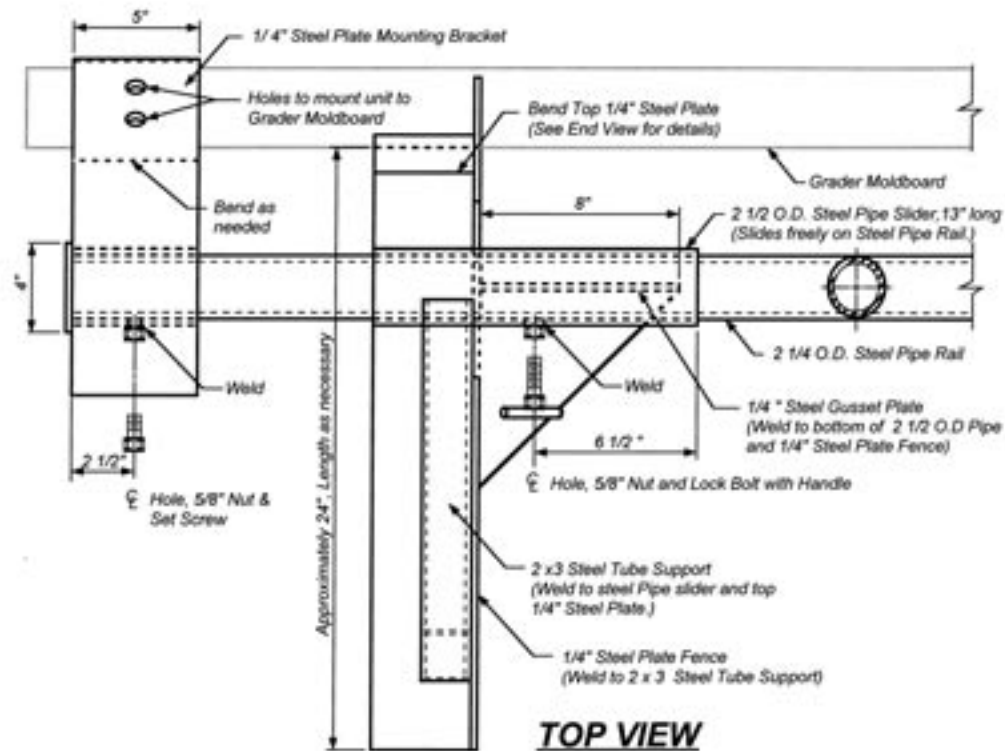
The greatest savings are in reducing the potential for back injuries from raking asphalt all day long. The crew size needed for this type of operation has been reduced from 5 or 6 people to 3 people. Minimal raking and shoveling of asphalt is now required.

Other benefits include smoother patches, lower labor costs, and a more efficient operation. An ACP grinder, rented from the city of Bremerton to prepare potholes, costs about \$700 a day. The old way of doing business meant the crew would spend up to two hours preparing the potholes using the grinder and then filling them with about 40 tons ACP. Using the grader attachment, the grinding operation is three times faster. The attachment saves approximately \$1,400 a day and uses approximately 120 tons of ACP.

"The best thing about this invention is the reduced potential for back injury that could end up being a life-long disability," said Larry Deemer, WSDOT Maintenance Supervisor.



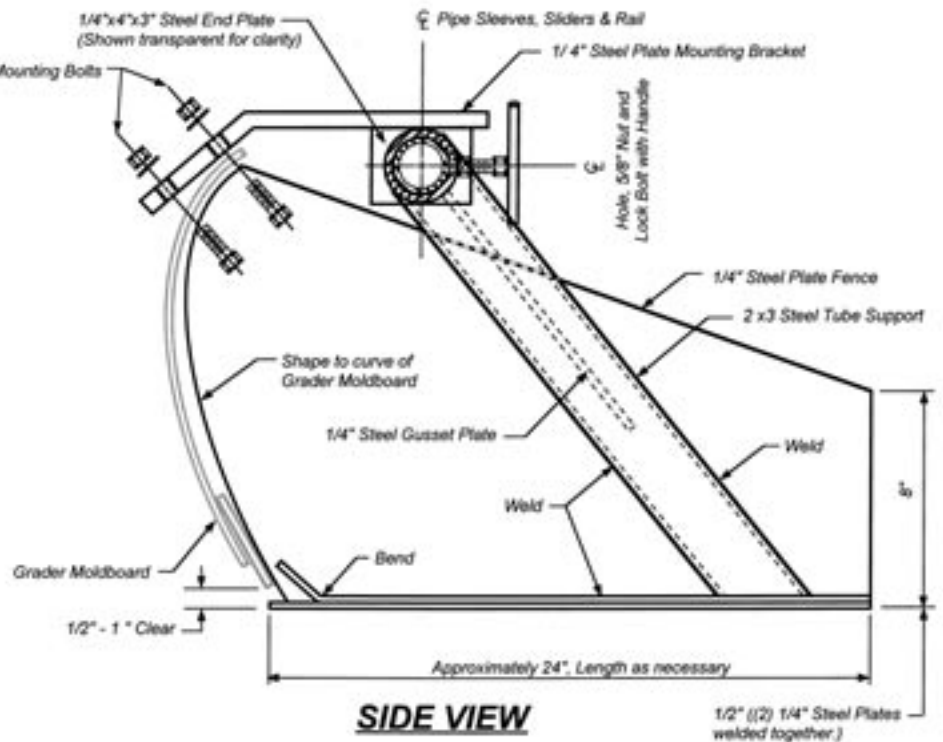
For more information contact Larry Deemer, WSDOT Shelton Maintenance Office, at (360) 427-2110 or ldeemer@wsdot.wa.gov.



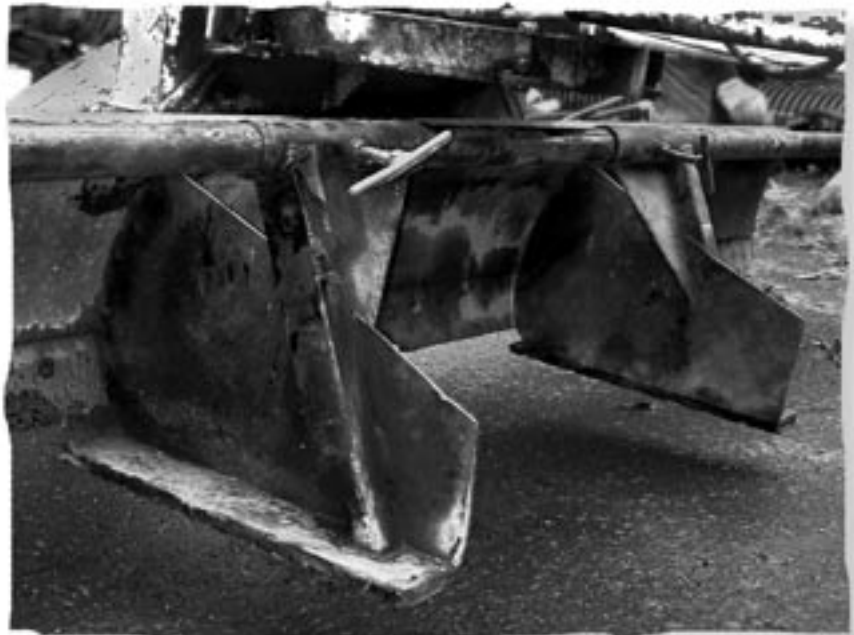
NOTE: Right Fence Unit shown. Left Fence Unit similar but reverse hand.



Left "boot" or blade slides out toward the end of the slide rail.



Right "boot" slides out on the rail for a wide patch on a paved road.



The two "boots" are width adjustable for patching.



Right "boot" rotated up and out of the way for unrestricted use of grader's moldboard.